

WISCONSIN TRAFFIC SAFETY REPORTER

JANUARY/FEBRUARY 2000



FOCUS ON Large Truck Safety

By Dennis Hughes

Wisconsin motorists share the road with many types of vehicles, some that intimidate us, and some we hardly notice. Large trucks are hard not to notice, but they should not be a source of fear or intimidation.

Like all commercial vehicles, large trucks are operated by professionals—people who drive for a living, who have a personal stake in making it home safely from the “office” every day, who have to satisfy special requirements to maintain their driving privilege. They work in a regulated and carefully scrutinized operating environment, and they hear a host of people (employers, law enforcement, insurance companies and trucking industry leaders) preach the “Safety First” message every day.

Unfortunately, many safety-related myths, misconceptions and stereotypes plague the nation's trucking industry. This issue of the *Traffic Safety Reporter* exposes some of these unfounded “facts,” and tells the story of how WisDOT, the federal government and the trucking industry are working with individual truck drivers, driver education classes and other community partners to foster large truck safety in Wisconsin.

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Sharing the Road with Large Trucks and Buses

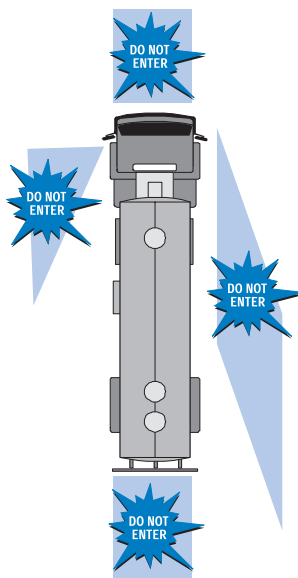
A Safety Education Program for Young Drivers

Sharing the Road, a partnership of the Wisconsin State Patrol and the Road Team of the Wisconsin Motor Carriers Association, provides opportunities to high schools to have a State Patrol inspector and a professional truck driver visit driver's education classes to provide tips on sharing the road with large trucks and buses.

Key points of the *Sharing the Road* program include: what the *Crash Zone* is; where a large vehicle's blindspots are; why it is necessary to follow trucks and buses at an increased distance; what to watch for when passing; the time and distance it takes a large vehicle to stop.

The *Sharing the Road* program is the result of performance-based planning within the State Patrol's Motor Carrier Safety Assistance Program (MCSAP) (see article on page 3).

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In 80% of crashes involving a truck and an automobile, the driver of the automobile contributed to the crash. Blindspots are areas where the truck driver cannot see you. Blindspots include:

◀ Sides of the Truck

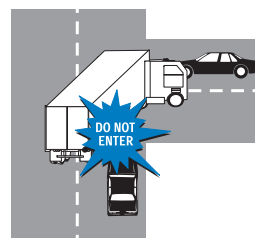
If you cannot see the truck driver's face in his/her side-view mirror, he/she cannot see you. If the driver changes lanes, he/she might not know that you are there.

◀ Rear of the Truck

The driver of a large truck cannot see you if you are directly behind it. Give the driver enough space so that if he/she has to brake suddenly, you will have time to stop safely. Following too closely reduces your visibility of the road ahead and diminishes your ability to see potential hazards. Large vehicles can straddle objects whereas a car cannot.

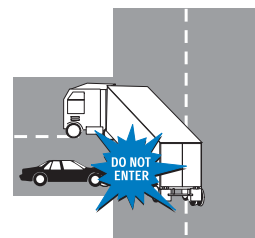
◀ Front of the Truck

When passing a truck, make sure you can see the entire front of the truck in your inside rear-view mirror before pulling back in front. It takes a large truck twice the time and room to stop as it does a car.



▲ Right Turns

Due to their size, large trucks are not always able to turn from within their own lane. Be alert for turn signals indicating a large vehicle might be turning right. Never put yourself between the curb and a truck turning right.

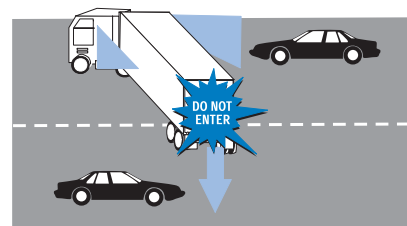


▲ Left Turns

Large trucks need more room to make left turns. When approaching an intersection, allow enough room so they can safely pass in front of your vehicle.

▼ Backing

If you come across a truck backing into an area to load, unload, or park, allow the driver time and space to do so. Don't try to squeeze in behind, in an attempt to beat the truck.



NATIONAL

Crash Facts



In 1997, one out of eight traffic fatalities in the U.S. resulted from a collision involving a large truck.



Large trucks accounted for 3% of all registered vehicles, 7% of total vehicle miles traveled, and 8% of all vehicles involved in fatal crashes.



Large trucks were involved in 444,000 crashes; 4,871

in fatal crashes. A total of 5,355 people died (13% of all traffic fatalities) and an additional 133,000 were injured.



Of the fatalities that resulted from crashes involving large trucks, 13% were occupants of a large truck, 78% were occupants of another vehicle, and 8% were non-occupants.



In 30% of the two-vehicle fatal crashes involving a large truck and another type of vehicle, both vehicles were impacted in the front. The truck was struck in the rear 3 times as often as the other vehicle (18% and 6%, respectively).



The percentage of large truck drivers involved in fatal crashes who were

intoxicated—with blood alcohol concentrations (BAC) of 0.10 or greater—was 1.1%. These drivers have also shown the largest decrease in intoxication rates since 1987 (59%). Intoxication rates for drivers of other types of vehicles involved in fatal crashes were 18.2% for passenger cars, 20.2% for light trucks, and 27.9% for motorcycles.

From NHTSA
www.nhtsa.dot.gov

WISCONSIN

Crash Facts

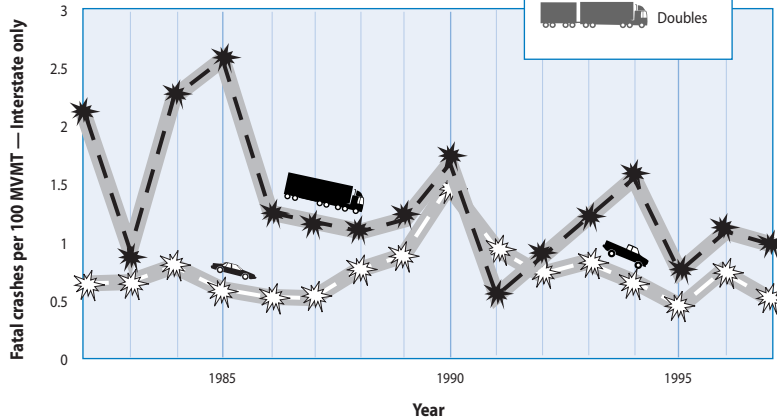
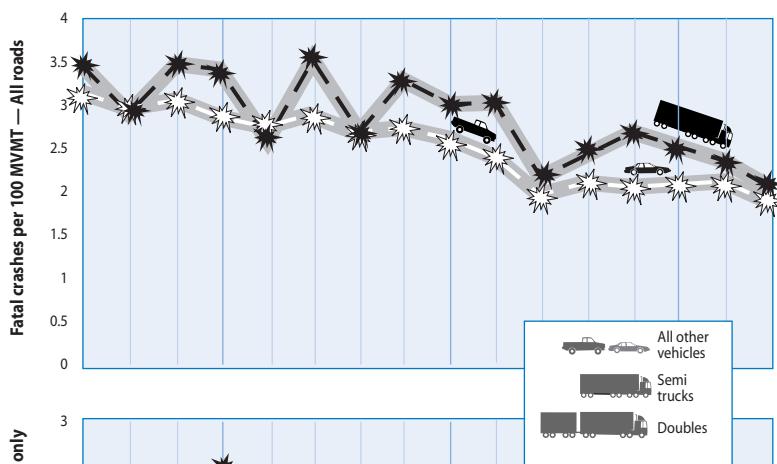
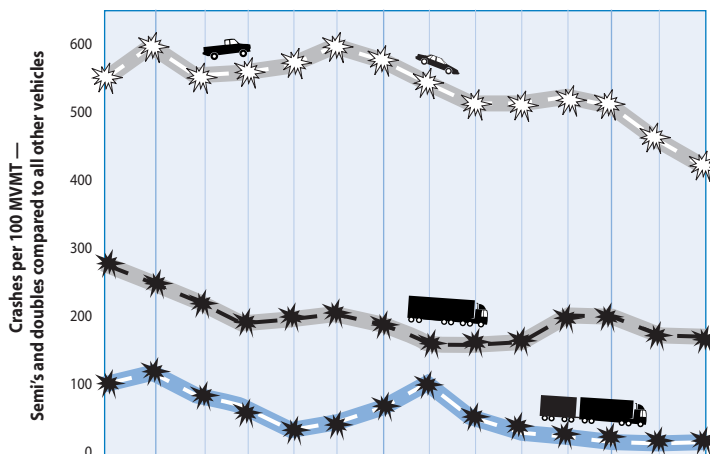


Graphs based on data collected by WisDOT show number of crashes per 100 million vehicle miles traveled (MVMT) for the following vehicles and roadways:

Crashes involving semis and doubles compared to all other vehicles (top).

Fatal crashes on all roads for large trucks and other vehicles (middle).

Fatal crashes on the Interstate for large trucks and other vehicles (bottom).



The **Wisconsin Traffic Safety Reporter** is published by the Bureau of Transportation Safety, Wisconsin Department of Transportation. Its purpose is to promote transportation safety, to recognize worthwhile programs, to educate and to share ideas with safety professionals.

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Funded by the Wisconsin Department of
Transportation and the National Highway
Traffic Safety Administration.

Motor Carrier Safety Assistance Program (MCSAP)

by Eileen Schnapp

In 1984, the Wisconsin State Patrol received an implementation grant from the Federal Highway Administration (FHWA) to manage MCSAP with the primary goal of reducing the number and severity of crashes involving commercial motor vehicles (CMVs).

The program has grown from a field staff of six inspectors in 1984 to a current field staff of 28 inspectors, along with additional hours equal to three trooper positions. While the early program focused mainly on vehicle and driver inspections, today's program has evolved to include:

- Compliance reviews (audits of carrier operations).
- Traffic enforcement by both inspectors and troopers to ensure that CMV drivers are complying with traffic laws.
- Enforcement of size/weight violations when done at a portable site and along with an inspection.
- A variety of educational activities addressing the needs of the trucking industry and the public—this includes the *Sharing the Road* program (see page 1).
- Collection of CMV inspection and crash data.
- CMV post-crash inspections to assist in determining crash cause.
- Hazardous materials and cargo tank inspections.
- Additional outreach and training activities.

Staff who conduct MCSAP activities must meet high state and federal eligibility requirements, including successful completion of the following training: 80 hours on vehicle and driver inspection; 40 hours on hazardous material inspection; 40 hours on cargo tank inspection; 80 hours on compliance review, and other training as needed.

MCSAP benefits include:

- Safer highways through the uniform enforcement of CMV laws and regulations.
- Better informed and more compliant carriers through the Compliance Review Program.
- A better informed motoring public through the *Sharing the Road* program and other awareness activities.



State Patrol inspector checks truck under carriage.

- Safer highways through traffic enforcement activities conducted in high crash rate areas.
- Collection and analysis of CMV inspection and crash data to determine trends and future program direction—both for Wisconsin and nationally.
- Specialized training provided to state inspection staff.
- Analysis of crash cause through the post-crash inspection program.

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Motor Carrier Advisory Committee (MCAC)

by Tom Cantwell

Since 1987 WisDOT's Motor Carrier Advisory Committee has served as a communication link between WisDOT and the motor carrier industry. MCAC is a forum for the exchange of information between the department, its customers in the motor carrier industry, and organizations which serve both. MCAC helps the department with program planning and evaluation by advising on the effects department policies and procedures have on the trucking industry.

The committee is co-chaired by Martha Gertsch, Director of DMV's Bureau of Vehicle Services and Tom Cantwell, Chief of DMV's Motor Carrier Services Section. Committee members include representatives from the State Patrol, WisDOT Bureau of Highway Operations, Wisconsin Motor Carriers Association, Wisconsin Transportation Builders Association, Petroleum Marketers Association of Wisconsin, Wisconsin Truck Stop Operators Association, motor carrier service bureau companies, and individual motor carriers.

MCAC meets three times a year to discuss the department's budget, legislation affecting motor carriers, service delivery and safety issues.

Currently under discussion is the availability of truck parking in rest areas. Motor carriers would like to see more truck parking provided along interstate highways. Drivers need more rest areas to have a safe place to sleep/rest after driving their daily maximum hours. But the Truck Stop Operators Association has stated there is no need for more rest areas because there is already adequate parking at truck stops. WisDOT is considering the implications of public financing for these facilities. While there is no easy solution, MCAC serves as a forum to air diverse opinions and seek consensus.



What is a "large" truck?

When registering in Wisconsin, trucks with gross vehicle weight (GVW) over 12,000 pounds are considered large. GVW is the weight of the truck and its load. Large trucks include straight (insert) trucks and truck tractors (not attached, semi attached and multi trailer units, e.g., double bottoms).

Trucks with GVW over 80,000 pounds have to apply for an Oversize/Overweight Permit (see page 4).

NHTSA regulations show:
 large trucks = any truck over 10,000 pounds,
 medium trucks = 10,000 to 26,000 pounds, and
 heavy trucks = over 26,000 pounds.

Any vehicle for which a Commercial Driver License is required (see page 4) is considered a Commercial Motor Vehicle (CMV).

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(TOP) In 1993 Emmert International of Portland, Oregon, moved this 298 ton, 240 feet long power transformer in Edgerton.

(BOTTOM) Bridge girders destined for the I-94 bridge crossing the St. Croix River (1995).

Oversize/Overweight Permits

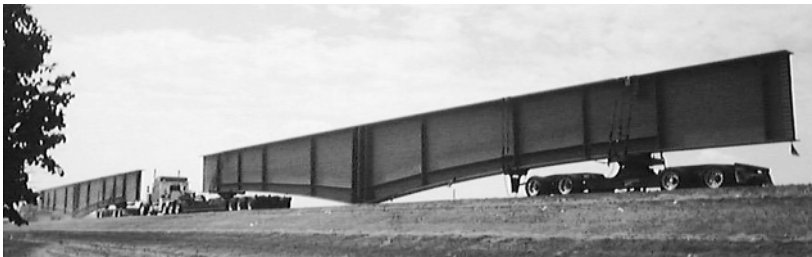
The Oversize/Overweight (OS/OW) Permit Unit, within the WisDOT Division of Motor Vehicles, issues permits for trucks which exceed statutory size and weight limits. For example, a truck with GVW (gross vehicle weight, which includes the truck and its load) over 80,000 pounds has to apply for a permit. Permits have been issued for GVW's over 700,000 pounds.

Two kinds of permits are issued: single and multiple trip. About 45,000 single trip permits, good for two weeks, are issued each year in Wisconsin for non-divisible loads (e.g.,

a storage tank) on a specific route. Nearly 15,000 multiple trip permits are issued each year giving generalized authority to transport both non-divisible (e.g., backhoes) and divisible loads (e.g., logs, potatoes). These specify maximum weight and/or dimensions, limit the kinds of roads, and areas (e.g., trucks limited to the area 11 miles inside Wisconsin from the Michigan Upper Peninsula).

Motor carriers (or businesses which act as their agents) apply for permits, and OS/OW staff check the size, weight, load type and insurance to start the permit process. The proposed route is entered into a WisDOT computer which checks if roads and bridges along the proposed route can safely accommodate the increased load. If the GVW appears to exceed the capacity of a bridge, the application is referred to the WisDOT Bridge Office for a closer analysis. The route-check system is also used to determine if roads have the width, shoulders, and height clearance to handle the loads. Many maps, such as construction maps, are checked to be sure the load isn't too wide for lanes narrowed by construction or restricted by traffic.

Motor carriers must also comply with other safety restrictions on their loads: flags, signs, lights, requirements for State Patrol or private escort, clearing bridges of other traffic before the load is allowed to cross, travel at night or other low-volume times.



Contact Kathleen Nichols, WisDOT OS/OW Permit Unit, (608) 266-6648, kathleen.nichols@dot.state.wi.us.

Commercial Driver Licenses

In 1986 Congress passed the Commercial Motor Vehicle Safety Act (CMVSA) to "establish national minimum standards for testing and licensing of commercial drivers, and require drivers to have a single classified driver license and driving record." This Act set out these objectives:

- Limit each Commercial Motor Vehicle (CMV) operator to one license, a Commercial Driver License (CDL).
- Implement standardized CDL testing and licensing practices in all states.
- Harmonize state laws and practices regarding the treatment of a CMV driver convicted of violations listed in the CMVSA.
- Support law enforcement needs by adopting license standards, harmonized laws and consolidated records.

To get a CDL in Wisconsin you now must pass knowledge and skill tests. A CDL is needed to operate vehicles:

- with a gross vehicle, gross combination, actual or registered weight over 26,000 pounds
- that transport hazardous materials in amounts

requiring placarding

- that are designed or used to transport 16 or more passengers, including the driver.

All states are connected to one computerized system to share information about CDL drivers.

- Drivers lose their CDLs for at least one year for any first conviction for a set of offenses called disqualifications, such as driving a CMV with a blood alcohol concentration of .04% or more.
- For serious traffic violations (for example, speeding by 15 mph or more) CMV operators lose their CDLs for shorter periods; for example, 60 days for committing 2 serious traffic violations within a 3 year period.

A study by the Office of Motor Carrier Safety examines the implementation of the CDL program and assesses its effectiveness and safety benefits. The study concludes that states are doing well reporting disqualifications, and less well reporting serious traffic violations.

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Safety and weight enforcement

by Captain Sandra Huxtable

Wisconsin State Patrol is charged with ensuring that motor carriers operate in a safe and legal manner, and the Motor Carrier Safety and Weight Enforcement Program plays an important part in achieving this mission. State Patrol inspectors operate sixteen Safety and Weight Enforcement Facilities around the state and they perform mobile motor carrier enforcement. They check trucks for current registration, valid insurance, and other required credentials. Inspectors verify the unit's weight, check if the load is properly secured, and check the driver's credentials. Inspectors might also perform a safety inspection of the truck to ensure that equipment is in proper working condition and that the driver is not fatigued or otherwise impaired.

With oversize/overweight units, the inspector checks if there is a valid permit, and if the required safety equipment—such as additional flashing lights—is in place and in proper working order. When a load is being carried under permit, there are often special conditions

attached to the move, such as a specific route or time for the move. In these cases, the inspector checks permit information. If there are violations of the permit, the inspector takes the necessary enforcement action and provides whatever assistance is needed to make the unit legal.

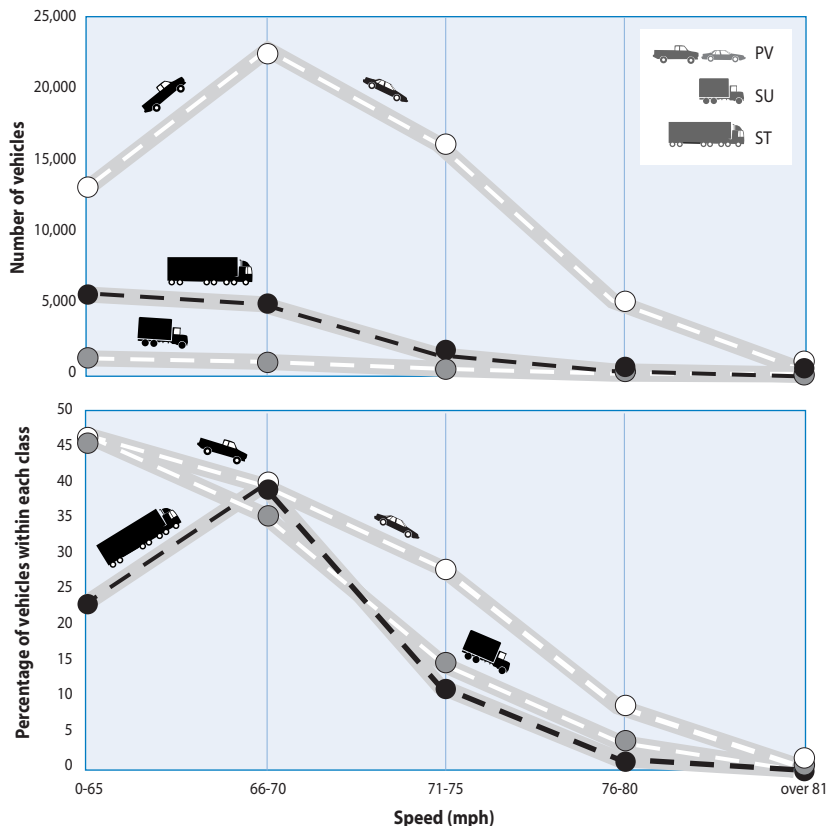
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Motor Carrier Safety and Weight Enforcement Facility, Utica

Who's Speeding?



PV = passenger vehicles
(cars, vans, pickups,
SUV's, motorcycles)

SU = single unit trucks

ST = semi-trailers
(85-90% are
18-wheelers)

Data collected by
WisDOT on I-90 near
County Trunk Highway
BB (Cottage Grove Road)
near Madison (65 mph
speed limit). Collected
by ATRs (Automatic
Traffic Recorders) on a
Wednesday in June 1999,
representing typical
weekday traffic.

In Wisconsin ATRs
collect data at several
sites on rural interstate
highways, operating
24 hours a day,
7 days a week.

Contact Paul Stein
WisDOT Data
Management Section
(608) 266-8678

paul.stein@dot.state.wi.us

WHSP

partners

WISCONSIN HIGHWAY SAFETY PARTNERSHIP

The Wisconsin Highway Safety Partnership (WHSP) is a coalition of public and private organizations, including federal, state and local government, concerned with transportation safety. The purpose of WHSP is to foster better communication and cooperation among all kinds of traffic safety organizations in the state.

In this WHSP section of the *Traffic Safety Reporter*, four members of the partnership are profiled.

"Traffic safety involves more than just law enforcement."

— Lt. Hermann



**Lieutenant
Edward
Hermann**

*Ozaukee County Sheriff's
Department*

Lt. Hermann is a 25-year veteran of law enforcement. He has served his department as a radio operator, jailor, patrol officer, sergeant and currently as a shift commander. In addition to his law enforcement experience, he served 16 years in the fire and rescue service on state and local levels. He worked with the local traffic safety commission and coordinated many of Ozaukee County's traffic safety initiatives. He is active with the Traffic Incident Management Enhancements (TIME) Program, a freeway incident management initiative in southeastern Wisconsin.

Lt. Hermann brings a suburban sheriff's perspective on enforcement and traffic safety to the Wisconsin Highway Safety Partnership. "Traffic safety involves more than just law enforcement. There are many stakeholders involved in traffic safety and crash prevention," says Hermann. "WHSP is an excellent forum for interested agencies to become more involved in exchanging ideas, coordinating efforts and maximizing program effectiveness. WHSP always welcomes new members—to share ideas and to learn what other agencies across the state are doing."

The Ozaukee County Sheriff's Department has always had great interest and involvement in traffic safety. By networking with other highway safety partners, there has been an exchange of ideas benefitting local residents.

Contact Lt. Hermann at
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**Jean
Thurow**

*Wisconsin Association of
Wo/Men Highway Safety
Leaders*

Jean is one of the founders and a past-president of WAWHSL, founded in 1968 by a group of volunteer women concerned about highway safety. Men were welcomed later, as reflected in the unique "Wo/Men" in the present name. Members are active in a variety of local and statewide initiatives for reducing motor vehicle crashes and their tragic and costly effects.

WAWHSL is a nonprofit organization supported by membership dues and grants from WisDOT. Many members serve on county traffic safety commissions and with other local safety organizations. As a public information and educational organization, it keeps its members informed about current legislation so they can contact their legislators on traffic safety matters. WAWHSL does not engage in lobbying.

The biggest statewide WAWHSL project is its booth at Farm Progress Days. Members hand out thousands of brochures and coloring books, and provide special demonstrations like the safety belt Rollover Convincer. Members also participate in a wide variety of local events, place brochures in post offices and schools. On holiday weekends members offer refreshments and highway safety information at rest areas along the Interstate.

The year culminates each fall with an annual conference and business meeting. The program includes local and national experts who keep members informed on current traffic safety developments and activities.

Jean represents WAWHSL in the Wisconsin Highway Safety Partnership, Operation Lifesaver (promoting railroad crossing safety), and the Wisconsin Safety Belt Coalition. Her activities in traffic safety began 40 years ago when she spearheaded the closing of open drainage flumes in the medians of divided streets in Madison. Then came the PTA, Madison Area Safety Council, Wisconsin Council of Safety, and National Safety Council (NSC) where she chaired Women of Safety Councils. She has also been an instructor for the NSC's Defensive Driving Course and the AARP 55/Alive Driving Course.

Contact Jean at (608) 845-7355.



Fred Hoffmeister

*Motorcycle Safety
Advisory Council*

Fred represents the Motorcycle Safety Advisory Council (MoSAC) in the Wisconsin Highway Safety Partnership. MoSAC members advise WisDOT in the areas of rider education, legislation, licensing, public information, and club activities. Recently retired, Fred served as a professor in the Safety Studies Department at UW-Whitewater since 1967.

Fred's involvement in traffic safety dates to the early '60s as a driver education instructor in the Milwaukee public school system. He received his MS degree in traffic safety education and his Ph.D in curriculum, with an emphasis in traffic safety and a minor in criminal justice administration, from Michigan State University.

In 1973, Fred became involved in motorcycle rider education with the founding of the Motorcycle Safety Foundation. He has taught motorcycle instructor courses at UW-Whitewater as a chief instructor, and has assisted in preparing motorcycle safety films, such as *Riding High*, *Bars to Bars*, and *Your Ultimate Nightmare*. Presently, Fred is involved in conducting rider education site visits and instructor candidate interviews. He is also a resource person for motorcycle safety promotional materials that are under development.

Fred has also been involved with alcohol and traffic safety, teaching a course at UW-Whitewater and serving as a consultant for various legal cases involving vehicles and alcohol. He also taught group dynamics for convicted OWI drivers.

Over the years Fred has joined WisDOT's Bureau of Transportation Safety motorcycle safety program, assisting manager Ron Thompson. He also serves on numerous committees and develops projects in driver licensing, pedestrian and bicycle safety, and motorcycle safety. In 1998 Fred was honored at the Governor's Conference on Highway Safety with the Traffic Safety Lifetime Achievement Award. In 1999, at the Wisconsin Driver and Traffic Safety Education Association convention, he received the Public Service Award for Outstanding Contributions to Wisconsin Traffic Safety.

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Jeff Agee-Aguayo

*Bay-Lake Regional Planning
Commission*

Jeff is a transportation planner with the Bay-Lake Regional Planning Commission (RPC), Green Bay. His primary duties involve coordination of the Sheboygan Metropolitan Planning Organization (MPO) transportation planning program for the Commission. Major projects Jeff has completed within the Sheboygan MPO include development of the *Year 2020 Sheboygan Area Transportation Plan*, as well as the *1999-2003 Sheboygan Transit Development Program*. Jeff has also participated in transportation, including bicycle and pedestrian, planning. Since the early 1990s he worked extensively on air quality conformity in Sheboygan.

Jeff monitors quarterly meetings of the Sheboygan County Traffic Safety Commission (TSC) to remain apprised of transportation safety issues. A member of the Sheboygan County TSC is also a member of the Sheboygan MPO Technical Advisory Committee.

In addition to Sheboygan MPO transportation planning duties, he also participates in a multimodal regional transportation planning program covering eight counties in northeastern Wisconsin. This program emphasizes transportation safety. Along with highway planning, activity occurs in the following modes: mass transportation (primarily shared-ride taxi and coordination of services), bicycle and pedestrian transportation, harbors, railroads and airports. Recently special emphasis in this program has been placed on corridor planning. The Commission is also in the beginning stages of developing a Regional Bicycle Transportation Plan.

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Intelligent Transportation Systems

The public and private sectors have long been interested in the use of electronic technology to enhance the performance of transportation systems. State-of-the-art technological applications are referred to as intelligent transportation systems (ITS).

Since the early 1990s WisDOT has utilized a strategic planning approach to identify needs and resources to support the expanding ITS program. As practitioners and managers moved this new program ahead, a business planning approach was adopted which centered around three main themes: (1) traveler information, (2) incident management, and (3) commercial vehicle operations (CVO).

The CVO Business Plan was completed in 1998. The Gary-Chicago-Milwaukee (GCM) consortium also works with WisDOT in developing a CVO program through the activities of the GCM CVO working group.

Three pioneering CVO ITS projects are featured here. For further information check ITS America on the Web at www.itsa.org.

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Gateway Traveler Information System

Extending 130 miles, the Gary-Chicago-Milwaukee (GCM) Corridor is home to more than 10 million people, and is one of the "priority corridors" selected by Congress for special federal funding based on transportation and environmental criteria. Representatives from regional, state and local agencies and private firms participate in GCM Corridor activities.

A 20-year Corridor Program Plan was developed which outlines a vision for ITS applications, and central to this plan is the development of the Gateway Traveler Information System. Gateway is a distributed system. Regional hubs in each state collect transportation-related data (dynamic and static) within their respective states and provide it to the Gateway server, which then distributes corridor-wide data back to the regional hubs for their own distribution and use. Currently in design, Gateway implementation is scheduled for completion by June 2000.

The Corridor Transportation Information Center (C-TIC), in operation since 1995, is used as a prototype for the Gateway. Linked color-coded congestion and construction maps of major roadways in the corridor (e.g., Milwaukee) are on the Web at www.travelinfo.org.

Current real-time data on C-TIC include: up-coming maintenance and construction, *999 (a cellular phone-based motorist aid system), NorthWest Central Dispatch (a regional 911 computer-aided dispatch system), and MONITOR (the freeway management system in Milwaukee).

Contact Jeff Hochmuth, ITS Program Office,
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HazMat Emergency Location System

To maximize public safety and minimize the economic impact of crashes involving hazardous materials in the heavily traveled GCM Corridor, the GCM ITS Plan identified the need for a system to provide timely and accurate information about the location and nature of such crashes to all responsible agencies.

Argonne National Laboratory, Illinois DOT, Chicago Fire Department, Chicago DOT and other interested agencies are planning a two-year demonstration project which will implement a system allowing a vehicle carrying hazardous material to automatically notify the appropriate Corridor agencies when a crash occurs.

The message will contain information about the time and exact location of the crash, as well as the nature of the hazard.

This project will develop a Regional HazMat Emergency Center which receives emergency messages and communicates with other GCM Corridor agencies. As a demonstration project, it will also examine national compatibility. The next step is a contract agreement among the project partners.

Contact Dr. Adrian Tentner
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Truckers to get real-time traveler info

In May the GCM Corridor formed a public-private partnership with TranSmart Technologies and the American Trucking Associations Foundation to deploy a real-time traveler information system, *FleetOnline*, for commercial vehicle operations (CVO). This system will provide dispatchers and truck drivers with the information on congestion, incidents, weather and routing needed for safe, efficient routing.

FleetOnline software system provides dispatchers with up-to-the-minute and predicted traveler information on planned routes. *FleetOnline* allows users to choose the shortest and alternative routes, and analyzes the costs of these routes. More importantly, *FleetOnline* provides driving restriction information on the user's planned route, and provides alternative routes when some driving restrictions apply, such as for oversize/overweight trucks. Furthermore, it provides route-specific, point-to-point warnings on major incidents and construction. While en route, drivers receive customized information from the dispatcher via wireless communication in the vehicle.

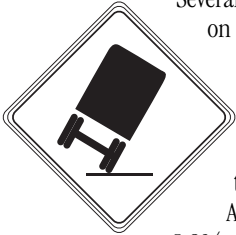
This project started in May and will last one year. System development will be completed in the first six months, and the remaining six months are for system testing, evaluation and enhancement. The project is focusing on the Chicago metropolitan area and is expected to expand to other major metropolitan areas in the corridor.

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Safety Projects in Southeast Wisconsin

Reducing truck tip-overs



Several times each year truck tip-overs occur on highway interchanges in Milwaukee County. In some places the curves on the ramps from one road to another are too sharp and truck drivers need to slow down more than they normally have to.

At the Zoo Interchange (where I-94, I-894 and US 45 all meet on Milwaukee's west side) a flashing yellow light installation above a tipping truck sign is being used on a trial basis.

Traffic calming using chevrons

Traffic calming measures are physical changes to the roadway which cause drivers to slow down based partly on their own perceptions of what is safe. To help reduce truck tip-overs, "converging chevron" pavement markings were installed in May at the Mitchell Interchange in Milwaukee, where I-94, I-43 and I-894 meet (50 mph speed limits).

This interchange has double lane ramps, and on such ramps traffic normally doesn't have to slow down, but here the curve is unusually sharp. On the ramp from northbound I-94 to westbound I-894, the chevrons extend across each lane of traffic, flowing in the direction indicated by the chevrons. The intended illusion created by the chevron pattern is twofold. First, as you proceed through the pattern, the pavement markings get closer

together, convincing drivers they are traveling faster than they really are. Chevrons also create the impression that the road is narrowing.

A two-year study, funded by the AAA Traffic Safety Foundation, will assess speed changes at the Milwaukee site. Milwaukee County Sheriff's Office (MCSO) has already done preliminary laser speed checks and found "before" speeds of 60-65 mph and "after" speeds of 47-50 mph.

Throughout Milwaukee County, MCSO, with cooperation from law enforcement in surrounding counties, will devote extra attention to truck speed reduction. The Truck Public Safety Committee, with representatives from law enforcement, the trucking industry, engineering and safety agencies, has been meeting for 2 years to consider how to deal with a variety of safety issues.

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Chevron pavement markings help prevent truck tip-overs on the ramp from northbound I-94 to westbound I-894 in Milwaukee.



Wisconsin Motor Carriers Association

The WMCA is a nonprofit trade association concerned with truck transportation in Wisconsin. As a service organization, it assists members with taxation, size and weight, permits, drug testing, hazardous materials, and commercial driver licensing. Members receive information about the Wisconsin legislature, rules and regulations approved in other states, and federal policies and regulations.

WMCA keeps in close contact with legislators and state administrative agencies. WMCA is the Wisconsin affiliate of the American Trucking Associations (ATA), based in Washington, D.C. Together they represent Wisconsin trucking interests on the national level.

The association conducts seminars to help members improve productivity and safety, alcohol and drug testing, and commercial driver licensing.

In 1988, WMCA established the nation's first state Road Team, comprised of articulate truck drivers with outstanding safety records who appear publicly to discuss

safely sharing the road with trucks. The team, currently with six members, presented *Sharing the Road* in more than 110 Wisconsin schools in 1998. During the last year and a half, the Road Team coordinated efforts with the Wisconsin State Patrol (see page 1). If you would like a Road Team member to talk to your civic group, company, or school free of charge, contact Sue Webb, WMCA. The Council of Safety Supervisors, a division of WMCA, includes safety and personnel supervisors for motor carriers domiciled in Wisconsin and surrounding states. It sponsors safety programs and a forum for the exchange of safety information. They sponsor Wisconsin's annual Truck Driving Championships where state drivers can test their knowledge, driving skills, and over-all professional competence. Winners are eligible to compete in the ATA's National Truck Driving Championships.

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State Patrol inspector and safety-conscious truck driver.

International Highway Transportation Safety Week

Organized by the Federal Highway Administration, Commercial Vehicle Safety Alliance (CVSA) and American Association of State Highway and Transportation Officials (AASHTO), a week each June is dedicated to highlighting highway safety. Federal, state and private sector groups sponsor events to bring safety information to passenger and commercial vehicle drivers. Some of the issues highlighted: sharing the road, driver fatigue and alertness, safety belts, commercial driver health issues, and highway-rail grade crossing safety.

Motor Carrier Safety Improvement Act of 1999

December 1999 marked an important moment in US transportation history when President Clinton signed the Motor Carrier Safety Improvement Act of 1999. The measure, designed to reduce truck and bus fatalities by 50% in 10 years, will get dangerous vehicles off Wisconsin highways. Congressional leaders, organized labor and the trucking industry worked hard to enact one of the most comprehensive measures ever taken to improve highway safety.

The new law also improves commercial driver license programs by empowering states to more effectively identify problem drivers, take remedial action, and get high-risk drivers off the road. It enables USDOT to ensure

the safety fitness of newly-formed motor carrier companies, levy strong sanctions on foreign carriers who operate illegally in the US, deny entry to carriers who are not properly registered, and impose stiff fines on violators. The measure also creates the Federal Motor Carrier Safety Administration (see below).

New funding will help states conduct more vehicle, driver and carrier inspections. Also a major study of crash causes, and a new system for collecting crash data will be funded.

From USDOT press release (www.dot.gov/briefing.htm)

Federal Motor Carrier Safety Administration

by Bill Vickery

Reducing the number of commercial motor vehicle crashes, fatalities and injuries on the nation's highways—this is the mission of the Federal Motor Carrier Safety Administration (FMCSA) within the US Department of Transportation. The principle focus is on interstate motor carrier compliance with the Federal Motor Carrier Safety Regulations (FMCSR).

FMCSA Wisconsin Division currently has a total of seven employees to work with the 11,000 active interstate carriers domiciled within the state, ranging in size from many one vehicle operations to one carrier which has more than 15,000 drivers. FMCSA activities include:

Enforcement

Enforcement is the heart and soul of FMCSA. Recently Congress was told that within one year FMCSA will double the number of on-site, in-depth reviews of motor carriers' operations. The review takes place in the office of the motor carrier and involves verification of compliance with regulations through a document audit of driving hours, physical qualification and examinations, and drug and alcohol testing for drivers. SafeStat (Safety Status Measurement System) identifies which carriers are reviewed. For details regarding SafeStat, see *MCSAFE*, Vol. 4, No. 1, on the Web at mchs.fhwa.dot.gov. FMCSA has published an analysis of the costs/benefits of the Compliance Review Program; see *MCSAFE*, Vol. 3, No. 3.

When compliance reviews discover violations, evidence is prepared and the carrier is fined through a civil forfeiture-type process. In Wisconsin approximately 30% of reviews result in enforcement action.

To improve federal regulation enforcement, and to ensure each state has rules governing safety, Congress authorized US DOT to develop the Motor Carrier Safety Assistance Program (MCSAP), a discretionary grant program supporting state enforcement of federal and/or

compatible state rules. Wisconsin State Patrol was involved in MCSAP from the beginning (see page 3). The Patrol does virtually all vehicle inspections and many compliance reviews within Wisconsin. FMCSA uses the data from vehicle inspections, and from crash reports, to determine interstate carriers needing on-site compliance review.

Education

At least four times annually, interstate motor carriers are offered the opportunity to attend an FMCSR course which explains regulations and provides information about establishing crash prevention programs.

In 1999, Wisconsin FMCSA made 61 presentations to a wide variety of groups on topics such as drug and alcohol testing, hours-of-service, driver fatigue, true cost of crashes, and vehicle inspections.

FMCSA was directed by Congress to educate the public about how to safely share the road with trucks and buses. In 1994 the *No Zone* (or *Sharing the Road*) program was introduced, emphasizing the blind spots where truck and bus drivers cannot see (see page 1). The national *No Zone* program is now presented by government, driver education instructors, industry trade groups, and law enforcement officers. The Wisconsin Motor Carriers Association's Road Team makes numerous presentations each year on the *No Zone*. This year the Road Team has joined Wisconsin State Patrol motor carrier inspectors in developing a uniform curriculum for presenting the *No Zone* message to driver education classes.

Technology

While most transportation safety technology is directed toward general highway users—ramp metering, surveillance of traffic conditions by closed circuit TV—some has been directed toward motor carrier operations

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Federal Truck Size and Weight Study

by Mark Morrison, P.E.

In 1994 USDOT initiated the Comprehensive Truck Size and Weight (CTS&W) Study, which is intended to provide decision makers with fact-based information regarding the multi-faceted and controversial truck size and weight issue.

The study is broken down into nine areas: Freight Distribution, Pavement Costs, Bridge Costs, Roadway Geometric Costs, Safety, Traffic Operations, Environment and Energy Impacts, Rail Impacts, and Shipper Costs. Different scenarios are plugged into the model, and impacts for each of the nine areas are produced. Scenarios deal with different types of truck configurations and their weights, such as multi-trailers of varying length and weights, or standard 18-wheelers with another axle and higher weights. Scenarios also deal with trucks operating on different highway systems, such as the interstate highways, only certain interstates, or the national highway system.

Based on a given scenario, the model does a diversion analysis to predict any shift in freight between rail and truck. It also determines how much diversion will occur from one truck type to another (for example, from a straight truck to a semi). This determines how many trucks of varying configurations and weights would be operating under that scenario. The purpose is to see whether changing truck weights and/or sizes will reduce the number of truck trips or create more by diverting freight from rail to trucks. Reducing truck trips could benefit the environment, traffic operations and safety.

The model estimates the dollar impact of trucking on pavements and bridges, and the cost to highway departments to widen intersections, adjust highway curves, etc.

Safety is looked at from two angles: crash data analysis, and truck safety-related performance characteristics. The study acknowledges that "isolating crash rates as only a function of truck size and weight variables is difficult." It also points out that since multi-trailer trucks operate primarily on the better roads when compared to single-trailer trucks, "the use of aggregated (crash) rate data masks important operational differences between these two vehicles types. Any shift or increase in truck traffic, especially for multi-trailer combinations, off interstate highways would significantly increase safety risks."

Traffic operation is evaluated by looking at congestion. Impacts on energy and the environment are evaluated by looking at fuel consumption, air quality and noise pollution. Impacts of truck size and weight changes to the rail industry are examined. What happens to the railroads if trucking becomes more efficient? Finally, shipper costs are evaluated. Benefits to industry and consumers are reflected in the model due to increased efficiencies. To determine the impact of a proposal, the output of the model is compared to the base case scenario which uses current conditions.

The intent of the study is to provide an analytical tool to rationally discuss the issue of truck size and weight. However, since the model as currently drafted applies dollars to all aspects of the study except for safety, it will still be somewhat subjective. On the other hand, strictly relating safety to dollars wouldn't properly cover the issue either. The study in its final form is expected soon.

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The study is on the Web at
www.fhwa.dot.gov/reports/tswstudy/index.htm.

Legislative News

US House of Representatives

H.R. 1667, introduced May 4, 1999, would allow states to increase the interstate highway maximum weight limit on semi-trailer combinations from 80,000 to 97,000 lbs if the trailer is at least 48 feet in length and a tridem (3 axles) is used rather than a tandem (2 axles). The bill was referred to the House Committee on Transportation and Infrastructure, and then to the Subcommittee on Ground Transportation.

Wisconsin

Assembly Bill 332, introduced May 5, 1999, would require WisDOT to post a truck speed limit of 50 mph on the interstate highway system in Milwaukee County. It would also prohibit trucks from using the left lane of the Milwaukee County interstates except to make a left turn (exit the interstate via left-hand off ramps). The bill was referred to the Committee on Transportation, and a fiscal estimate has been received.

FMCSA *continued from page 10*

as well. For example, one motor carrier in Nebraska uses satellite technology to replace manually-entered driver's records to track drivers' hours. This carrier seems to have better control over drivers' activities, and reports that this new system has helped reduce crashes. A carrier in Wisconsin is presently developing its satellite program to replace manually-entered driver's records.

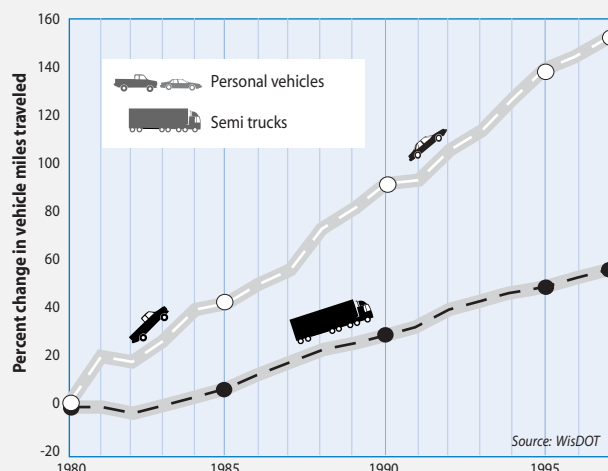
FMCSA is currently developing a proposal for new hours-of-service regulations for commercial vehicle drivers. When ready, this will be published in the Federal Register with a period for public comment. FMCSA will assess comments and check with stakeholders to develop a finalized rule.

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Highway travel trends

Deregulation of the trucking industry in the 1980s, the continued emphasis on just-in-time shipping in the 1990s, and the booming economy have contributed to rapid growth in trucking.





TRUCKING Background

In 1997, \$372 billion was spent on truck freight—81.3% of the nation's total freight bill. Of the 458,634 interstate motor carriers on file with USDOT in 1998, 70% operated six or fewer trucks.

Trucking employs 203,000 people, or one out of every 11 workers in Wisconsin where the economy depends on trucks to move freight. Trucks carry approx. 89% of all manufactured freight. Over 73% of all Wisconsin communities are served exclusively by trucks.

The trucking industry has traditionally had low profit margins (2-3%) in a competitive environment. The strong economy, lower fuel prices, and low interest rates have made the past year better than average financially. The economy has stimulated 1998 sales of Class 8 trucks (over 33,000 lbs) to jump 18% over 1997.

A strong economy and productivity are of course important to the industry, but safety is of paramount importance (see the WMCA article on page 9).

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Resources

From WisDOT

Share the Road
Public information and educational materials on sharing the road safely with trucks, Wisconsin State Patrol (608) 266-8121

Wisconsin Crash Facts 1998
WisDOT Bureau of Transportation Safety (608) 266-0402

From Federal Motor Carrier Safety Administration (FMCSA), Wisconsin Division
(608) 829-7530

Don't hang out in the No Zone
Brochure about avoiding truck drivers' blindspots

Hazardous Materials
This brochure deals with regulations in effect since October 1998. If you transport hazardous materials solely in intrastate commerce, you must comply with federal haz-mat regulations.

Semi Conscious
For driver education classes, a rap music video about sharing the road with trucks

Who Must Comply With USDOT Safety Regulations?
Brochure

MCSAFE (Motor Carrier Safety Analysis, Facts & Evaluation)
Published by FMCSA (see page 10), these statistics and analyses tell about crashes involving trucks, and the programs/countermeasures FMCSA has implemented to promote safety (mchs.fhwa.dot.gov).

Other resources

AAA Foundation for Traffic Safety (www.aaafacts.org)

CRASH – Citizens for Reliable and Safe Highways (www.trucksafety.org)

No Zone Campaign
(www.nozone.org)

Transportation Topics, weekly newspaper of the American Trucking Associations (www.ttnews.com)

Truck Driver Fatigue; Truckers Need More Rest, Less Highway Time, from *Status Report*, July 26, 1997, Vol. 32, No. 6, published by the Insurance Institute for Highway Safety

Wake Up!
This brochure for truckers, published by the AAA Foundation for Traffic Safety, is available from AAA Wisconsin, (800) 236-1300. Covers biological time, sleep myths, and danger signals for drowsy drivers. Also *Wake Up!* 30 minute audio tape; songs, sketches and humor which show why sleeping and driving don't mix; distributed by PATT (Parents Against Tired Truckers) (www.patt.org).

Wisconsin Motor Carriers Association, (608) 833-8200, provides diverse safety-related materials, including *Cars and Trucks—Partners in Safety* brochures, and Wisconsin Road Team brochures and schedule.